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## ABSTRACT

An experimental treatment approach to teaching alcoholics controlled drinking utilizing a multi-modal treatment approach is presented. This approach included aversion conditioning contingent upon emission of such undesirable drinking behaviors as gulping, drinking straight drinks, Blood Alcohol Level of 0.065 or greater, and time between drinks. In addition, socially acceptable alternatives to drinking were taught utilizing videotape techniques, role-playing, and biofeedback. Of the 17 subjects who began the program, 14 completed it. Of these 14, 10 remain outside the hospital. Definitive data is available relating to the behavior of seven subjects who are functioning as controlled drinkers. The results obtained indicate that alcoholics can successfully learn to control their drinking behavior and do not have to remain totally abstinent. Discussion of relevant variables to successful training and future research directions are presented. It is clear that externally imposed controls are not sufficient in the total treatment picture. The patient who learns to develop internal control for his drinking behavior has the greatest likelihood of effectively changing his drinking patterns. (Author)

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A MULTI-MODAL TREATMENT APPROACH TO CONTROLLED DRINKING

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For a long time there has existed an assumption, based on the philosophy of Alcoholics Anonymous, that total abstinence is the only possible alternative to total inebriation (Alcoholics Anonymous, 1955). Recently, several investigations have demonstrated an alternative approach; controlled drinking.

Experimental data related to the training of controlled drinking as an alternative to abstinence for alcoholics (Lovibond & Caddy, 1970; Maxwell et al, 1974; Mills, Sobell & Schaeffer, 1971; Schaeffer, 1972) has indicated that such training is feasible. Schaeffer, Sobell, & Mills (1970) found that alcoholics emit undesirable behaviors that differ from social drinkers in that they tend to gulp rather than sip their drinks, prefer straight rather than mixed drinks, and continue to drink beyond the stage where social drinkers would have stopped drinking. Mills, Sobell, and Schaeffer (1971), found that by employing a painful electric fingershock, 30% above or at individual pain threshold, contingent upon the alcoholic engaging in any of the undesirable behaviors noted above, all subjects successfully learned to modify their drinking behavior by the end of the treatment sessions so that it approximated that of social drinkers. Lovibond and Caddy (1970) succeeded in training alcoholics to become social drinkers in the following manner. In phase one of treatment, the subjects learned to discriminate their own blood alcohol levels from zero to 0.08%. In phase two, a strong electric shock was contingent upon their drinking once their blood alcohol level had reached 0.065%, below this level no shock was administered.

The commonalities in these studies were the employment of shock contingent upon the recurrence of quantifiable, undesirable drinking behaviors. In reviewing this research it became apparent that an important target behavior which was not specified and directly modified was the time lapse between successive drinks. If an individual were taught to delay the time between successive drinks, he would lessen the likelihood of becoming inebriated and strengthen the likelihood of becoming a controlled drinker. We further realized that since many of the alcoholic population we dealt with did their drinking in bars, they would need to learn not only how to change their drinking patterns, i.e. gulping, straight drinks, time between successive drinks, but would have to learn socially acceptable alternative behaviors to engage in between drinks, e.g. how to turn down a drink bought by a friend, a round on the house, etc. Learning to reduce the negative drinking behaviors while learning socially appropriate alternative behaviors to excessive drinking would theoretically lead to the increased likelihood of generalization from the experimental sessions. Lazarus (1973) points out that "nonwithstanding the biases that lead to theoretical befuddlement, most clinicians would probably agree with the pragmatic assumption that the more a patient learns in therapy, the less likely he is to relapse afterwards."

This paper presents an experimental clinical approach to the learning of controlled drinking behavior utilizing a multi-modal

treatment approach. The program described operates as one aspect of an open psychiatric ward and included patients who had all completed the Alcohol Rehabilitation Program but had been readmitted because of their drinking behavior. Their involvement in this program was voluntary and all received medical clearance, the major criteria being normal EKG's and liver function tests as well as no incidence of peripheral neuritis.

### METHOD

#### Subjects

The subjects were 17 male veterans who resided on the same open psychiatric ward between October 1973 and May 1974. Their ages ranged from 26 to 49 with a mean of 44.2.

#### Apparatus

The apparatus consisted of a Sony Videotape Model 1200; a constant current electrostimulator Model 3740 and a Smith & Wesson Breathalyzer Model 900A.

#### Procedure

The approach used in this study combined the procedures used by Lovibond & Caddy; Mills, Sobell, and Schaeffer, the variable of time between drinks, which we introduced; and videotape feedback and relaxation training. Briefly the procedure consisted of two phases, a baseline phase and a conditioning phase. Sessions 1-4 were baseline sessions. During the baseline sessions, four patients met as a group with the experimenters

and were encouraged to order drinks as they normally would in a bar. During the baseline sessions the type and amount of drink ordered, the time ordered, the number of sips, and the amount sipped each time was recorded. Twenty minutes into these sessions, the subject was asked to describe how he felt and to estimate his blood alcohol concentration. These sessions were videotaped. Following the description and estimate, a breathalyzer reading was taken and the S was given immediate feedback as to his BAL. The S's were given another drink and the procedure was followed until the BAL was over 0.08% at which point baseline sessions were terminated.

Once the baselines were completed, an individual treatment program was devised for each S. This program consisted of making shock contingent upon gulping, drinking too fast, or drinking once he had reached a BAL of 0.065%. Drinking too fast was determined by averaging the subject's time between drinks in the baseline sessions. If it were five minutes, the program was scheduled so that he learn to delay his drinks to six minutes (for all subjects one minute above average was arbitrarily picked as the starting point). If the subject did not wait six minutes and raised his glass to drink, he received a painful shock (1.4 milliamps) to the forearm. Using a successive approximations approach our goal was to lengthen the interval between drinks to 30 minutes. This delay would enable an 180 lb. individual to oxidize the alcohol in his system and remain sober.

We did not inform subjects of the time interval since we wanted him to become aware of the time and felt that learning

would be increased if some shocks were administered.

The Ss were further informed that drinking after reaching a BAC level of 0.065% or gulping drinks ( 1 oz. at a time) would result in a contingent shock.

Between drinking sessions, Ss viewed videotapes of the sessions, including the baseline sessions where they may have been drunk. This feedback proved to be an aversive consequence for several of the Ss. More importantly, it provided the opportunity to concentrate on the variables which elicited heavy drinking and to suggest possible alternative responses. With our initial group, a highly effective bar room behavior was to discuss the controlled drinking program since it elicited a great deal of attention (social reinforcement) albeit often skepticism and while discussing the training techniques the S was consciously repeating some of the rules, i.e. delaying drinks, talking and not gulping, etc.

The baseline and conditioning sessions were run from Monday through Thursday. On weekends or outings, Ss were asked to keep a record of their drinking behavior, that is, type of drink, number of drinks, and time ordered. Again this gave them a reminder to follow the drinking rules as well as feedback regarding progress. On the days that patients were in the study, they were voluntarily restricted to the ward so that they did not risk further inebriation and related social problems. Anyone who broke this rule was immediately out of the program. Of the initial 17 Ss, three broke the rule, all incidents occurred during baseline sessions, prior to treatment.

Conditioning sessions were held for six weeks and the number of sessions was as follows; 4-4-3-2-1. In this way, we began fading out the training. Generally by the end of the first week, the Ss were changing their drinking patterns.

During the conditioning sessions, we attempted to achieve several goals. We discussed and roleplayed various ways to delay time between drinks and how to avoid social pressure to drink.

Graded increase in the amount of social pressure put on the patient to order a drink by the therapists involved:

(1) in early sessions merely asked if he wanted another drink and his verbal refusal was sufficient to terminate the session

(2) in later sessions after he verbally refused an additional drink, therapists prompted him to accept another drink with statements such as, "Oh, come one, one more won't hurt you."

(3) if he refused to order additional drinks, a drink is poured for him and the session is only terminated after he leaves the bar without consuming the drink

(4) stooge who orders a "round for the house", a "drink for my buddy", etc. In other words increases pressure of drink more and faster.

Criterion for increasing social pressure on the patient to take an additional drink was his successful refusal of additional drinks for two consecutive days. Whenever he successfully refused either to order or consume a drink he was verbally praised by the therapists (Assertive Social Training).

In addition to techniques noted above, relaxation and biofeedback training were utilized to teach alternative responses to the anxiety subjects reported associated with drinking.

### Results

All subjects who completed the program appreciably changed their drinking patterns. Of the fourteen subjects who went through the program, each learned to delay the amount of time between drinks, reduced the overall amount of alcohol he consumed, and reduced his BAL.

Follow-up of 18 months' duration indicates that seven individuals report that they have not gotten drunk and have altered their drinking patterns by switching from straight to mixed drinks or drinking only beer. In each case less alcohol than prior to treatment was consumed. Of the other seven, two have been readmitted to the hospital, one has been treated at a state-run detoxification center, one periodically calls seeking readmission but continues to live out of the hospital (18 months) and no contact was possible with the other three. The latter were considered failures for conservative reasons.

### Discussion

In our society there are a great many social pressures for individuals to consume alcohol beverages. Social occasions and religious rites present opportunities to drink, and, in such situations, cultural norms strongly reinforce moderate drinking. Society does not reinforce either extreme, abstinence or chronic drunkenness. Thus, for the abstaining former alcoholic, intense social pressures influence him toward taking a drink. Generally, it is only in special environments, such as A.A. meetings, that an abstainer can receive positive reinforcement for not drinking at all. Most abstainers then avoid those social situations which may tempt them to return to drinking. Such limitations on social activities, the removal

of a legitimate source of relaxation, and consequent social stress may actually increase the probability that a former drinker will take a drink (Sobell and Sobell, and Christelman, 1972).

Certainly these facts support the idea that treatment goals, other than abstinence may be preferred. The results of this study indicate that alcoholics can successfully learn to control their drinking behaviors and do not have to remain totally abstinent. The study introduced another variable that can be manipulated to change drinking behaviors, that being the time between drinks.

In subjective reports, following the experimental aspect of the study, participants uniformly reported a sensitized awareness of time. Many indicated that they checked their watches or barroom clocks to insure that they were not drinking "too fast". While it is important that individuals learn to space their drinks apart, we became aware of a related problem. Many of our subjects reported that they did not know what they should be doing between drinks, other than clockwatching. In retrospect, this shouldn't have been a surprising revelation. After all, for our subjects, their lives revolved around alcohol. Whether it be frequenting bars, conning their next drink, scheming how to hide their drinking from family, employers, or friends, or thinking of another "excuse" to drink; the central focus of their very existence was alcohol.

Our first group of four subjects discovered a fortuitous way to delay the time between drinks almost by chance. When "offered" drinks by friends or "on-the-house" they explained they couldn't accept it because they were learning controlled drinking. They then would explain in

detail what this meant. To do this was an asset for the initial group as it would amuse and/or amaze friends and bartenders, slowed down their drinking (its hard to talk and drink simultaneously) and it was a way of rehearsing the rules they had learned. For subsequent group, it may have been a liability; local patrons had heard the story, didn't ask for a rehash, and would say, "well, one drink won't hurt. After all, you're a controlled drinker."

We recognized that substantial changes in an individual's life style is necessary to insure success in controlled drinking. Future clinical work as well as research must be geared to helping individuals find activities other than drinking to engage in. Learning comeback remarks or a quick grip to counter the incredulence they may face, and assertion training i.e. how to say no to an offer of a drink are only two of many skills that may be necessary for subjects to learn.

They are other problems in experimental design that also should be taken into account. A recent article by Billings, Weiner, Kessler, and Gomberg (1976) is critical of attempts to change drinking behavior in the laboratory setting. They point out that individuals tend to consume drinks faster, with fewer sips in the barroom than those in the laboratory. In addition, barroom patrons tend to drink beer while laboratory subjects preferred mixed drinks. In our study, we attempted to make the barroom as physically similar to local bars as possible, although to replicate local pubs identically was out of our financial reach. We did find a preference for mixed drinks. This may result from the availability of mixed drinks at no charge in our bar. In any event,

the goals were to decrease the frequency of drinks, increase the time between drinks, and amount sipped. If generalization of this learning could occur from the laboratory bar to real bars, we would be making an impact on drinking patterns. The weekend self-charting techniques indicate that some generalization did occur.

Possibly the biggest problem facing individuals who were attempting to modify their drinking behaviors were to find socially acceptable substitutive behaviors for the drinking they were cutting back on, to find other activities beside visiting bars, and what to do between drinks.

With our subjects we attempted to have them anticipate situations which might precipitate excessive drinking. They were asked to list all situations that in the past elicited drinking to excess. They were given the opportunity to role-play these situations and practice alternate responses. Videotape feedback and rehearsal were employed. A list of the most common environmental situations were made up for each subject, individually. They were given a "Do's and Don't's" card to carry with them which provided them with written reminders of the alternatives they practiced. In addition, subjects were taught self relaxation techniques and were involved in social skills training.

We consider the success rate of this particular study, 40-50% of subjects continuing to function in the community after 12-18 months, as moderately successful. To improve treatment several issues as noted above, need to be explored. Among these are the physical appearance of the experimental barroom setting, the experimenter variables, and the training of substitutive behaviors. Future research must be geared to looking at all possible drinking behaviors that should be modified as

well as building as many socially acceptable alternatives to drinking and operationalizing the techniques to move from externally improved controls to self-control.

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